

Claims

1. An electrically actuated valve arrangement (10) for the controlled opening and closing of a working chamber (12) of an internal-combustion engine, with
5 an electrical linear drive unit (18) which, depending on electrical triggering signals, causes a valve stem (16) of the valve arrangement (10) to execute longitudinal movements between an open position and a closed position of the valve arrangement (10),
10 at least one actuating element (38) and an engagement element (30) interacting with said actuating element, one of these elements being arranged in torsion-resistant manner on the valve stem and the other of these elements being arranged statically in relation to the mobile valve stem (16) in such a manner that
15 20 prior to reaching the open or closed position of the valve stem (16) the engagement element (30) and the actuating element (38) come into engagement with one another and trigger a rotary movement (D) which is superimposed on the longitudinal movement (P) of the valve stem (16).
25 2. Electrically actuated valve arrangement (10) according to Claim 1, wherein the engagement element (30) is connected to the valve stem (16) and the actuating element (38) is arranged on the housing of the working chamber (12).
30 3. Electrically actuated valve arrangement (10) according to Claim 1, wherein the engagement element (30) is arranged

on the housing of the working chamber (12) and the actuating element (38) is connected to the valve stem (16).

4. Electrically actuated valve arrangement (10) according to one of Claims 1-3, wherein the engagement element (30) is an area or plate provided with surface irregularities.

5. Electrically actuated valve arrangement (10) according to Claim 4, wherein the engagement element (30) is a disc or a surface segment with substantially radially oriented depressions and/or elevations (32, 34) relative to the valve stem (16).

6. Electrically actuated valve arrangement (10) according to one of Claims 1-5, wherein the actuating element (38) is a spring arrangement, preferably a leaf-spring arrangement, with a substantially tangential directional component relative to the valve stem (16).

7. Electrically actuated valve arrangement (10), according to one of Claims 1-6, wherein the actuating element (38) is oriented at an acute angle relative to an active surface (36) of the engagement element (30).

8. Electrically actuated valve arrangement (10) according to one of Claims 1-7, wherein the rotary movement (D) is imparted to the valve stem (16) in the course of the approach to the open position.